IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA

NATERA, INC., Plaintiff,	)	
v.	)	1:23-CV-629
NEOGENOMICS LABORATORIES, INC., Defendant.	)	

MEMORANDUM OPINION AND ORDER

Catherine C. Eagles, Chief District Judge.

The plaintiff, Natera, Inc., alleges that the defendant, NeoGenomics Laboratories, Inc., is infringing two of its patents. Because both patents are directed to a natural phenomenon and do not contain an inventive concept, the patents are invalid for claiming ineligible subject matter. NeoGenomics' motion for summary judgment will be granted.

I. Background

Natera is the owner of two patents, U.S. Patent No. 11,530,454 (the "'454 patent") and U.S. Patent No. 11,319,596 (the "'596 patent"). Doc. 1-1 at 2; Doc. 350-10 at 2.[1] As is relevant here, Natera uses the claimed steps in these patents in its Signatera product, a test for early detection of cancer recurrence. *See* Doc. 9-18 at 2–3. NeoGenomics has a competing product called RaDaR. Doc. 94 at ¶ 10; *see* Doc. 169 at 2–4 (order giving overview of the two products).

[1] The Court uses the pagination appended by CM/ECF for all cites to the record.

When Natera filed this lawsuit in July 2023, NeoGenomics used a version of its product now known in this litigation as RaDaR 1.0, and Natera alleged infringement of the '454 patent and U.S. Patent No. 11,519,035 (the "'035 patent"). Doc. 1. The Court entered a preliminary injunction prohibiting NeoGenomics from selling RaDaR 1.0, Doc. 169, and denied NeoGenomics' motion to dismiss for patent-ineligible subject matter without prejudice to a motion for summary judgment. Doc. 172.

NeoGenomics then began developing RaDaR 1.1, a product it contends does not infringe either the '454 patent or the '035 patent. *See* Doc. 318 at 1. The parties reached a partial settlement, resolving all disputes about RaDaR 1.0 and the '035 patent, and the Court issued a permanent injunction prohibiting NeoGenomics from selling RaDaR 1.0. Doc. 329.

Natera then filed an amended complaint, alleging that RaDaR 1.1 infringes the '454 patent and the '596 patent. Doc. 353. NeoGenomics filed counterclaims seeking declaratory judgments of non-infringement, invalidity, and unenforceability of both patents. Doc. 357 at 49–54.

Each party has moved for summary judgment. NeoGenomics contends both patents are invalid because they claim patent-ineligible subject matter and because they omit inventors. Doc. 489.[2] Natera contends NeoGenomics is infringing the asserted

[2] NeoGenomics also moved for summary judgment on non-infringement of claims 1, 8, 10, 12, and 15 of the '454 patent. Doc. 489. Natera is no longer asserting infringement of those claims, and the parties agree that they are no longer at issue. *See* Docs. 547, 563.

claims[3] and that its inventorship defense is without merit. Doc. 494. The Court held a hearing on August 8, 2025. Minute Entry 08/08/2025.

II. The Patent Claims

For the '454 patent, independent claim 14 and its dependent claims 22, 24, 26, and 28 are at issue. Docs. 547, 563; *see* Doc. 1-1 at 222–23. Claim 14 of the '454 patent is:

> A method for preparing a plasma sample of a subject having cancer or suspected of having cancer useful for detecting one or more single nucleotide variant (SNV) mutations in the plasma sample, the method comprising:
>
> performing whole exome sequencing or whole genome sequencing on a tumor sample of the subject to identify a plurality of tumor-specific SNV mutations;
>
> performing targeted multiplex amplification to amplify 10 to 500 target loci each encompassing a different tumor-specific SNV mutation from cell-free DNA isolated from a plasma sample of the subject or DNA derived therefrom to obtain amplicons, wherein the target loci are amplified together in the same reaction volume; and
>
> sequencing the amplicons to obtain sequence reads, and detecting one or more of the tumor-specific SNV mutations present in the cell-free DNA from the sequence reads, wherein the method is capable of detecting an SNV mutation that is present in less than or equal to 0.015% of the cell-free DNA comprising the SNV locus.

Doc. 1-1 at 222.

For the '596 patent, independent claim 1 and its dependent claim 12 are at issue. Docs. 547, 563; *see* Doc. 350-10 at 220. Claim 1 of the '596 patent is:

> A method for preparing biological samples useful for monitoring the progression of cancer in a subject, the method comprising:
>
> (a) performing sequencing on a tumor biopsy sample of the subject to identify a plurality of tumor-specific mutations, wherein the

[3] The asserted claims are claims 14, 22, 24, 26, and 28 of the '454 patent and claims 1 and 12 of the '596 patent. *See* Docs. 547, 563.

tumor-specific mutations comprise one or more single nucleotide variant (SNV) mutations;

(b) evaluating results of the sequencing on the tumor biopsy sample to determine a plurality of target loci specific to the subject, wherein each target locus spans a tumor-specific mutation of the identified plurality of tumor-specific mutations; and

(c) assaying cell-free DNA isolated from a plurality of biological samples obtained from the subject at different time points, wherein the assaying comprises:

performing targeted multiplex PCR amplification to amplify the plurality of target loci together in the same reaction volume from the isolated cell-free DNA using primers specific to the plurality of target loci for the individual subject; and

performing high-throughput sequencing of the amplified DNA comprising the plurality of target loci to obtain sequence reads, wherein an SNV mutation that is present in less than or equal to 0.015% of the cell-free DNA having the SNV locus is detected from the sequence reads.

Doc. 350-10 at 220.

The Court construed claims of the '454 patent in May 2024, Doc. 280, and construed claims of the '596 patent in March 2025. Doc. 394.

III. Summary Judgment Standard

A "court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). A genuine dispute of material fact exists "if the evidence is such that a reasonable jury could return a verdict for the nonmoving party." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). In analyzing a summary judgment motion, courts "must construe all facts and reasonable inferences in the light most favorable to the nonmoving party." *Bandy v. City of Salem*, 59 F.4th 705, 709 (4th Cir.

2023). The moving party has the initial burden of demonstrating the absence of any material issue of fact; once the moving party meets its initial burden, the non-moving party must come forward with evidentiary material demonstrating the existence of a genuine issue of material fact requiring a trial. *Id.* at 709–10; *see also Celotex Corp. v. Catrett*, 477 U.S. 317, 324 (1986).

IV. Ineligible Subject Matter

Section 101 of the Patent Act defines the subject matter eligible for patent protection. It provides that "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 101. "[T]his provision contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable." *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014) (quoting *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.* (*Myriad*), 569 U.S. 576, 589 (2013)).

Because almost all inventions rely on laws of nature, natural phenomena, and abstract ideas in some fashion, courts use a two-step test to determine whether an invention is not patentable. *Id.* at 217–18. First, courts "determine whether the claims at issue are directed to one of those patent-ineligible concepts." *Id.* at 217 (citing *Mayo Collaborative Servs. v. Prometheus Lab'ys, Inc.*, 566 U.S. 66, 77 (2012)). If so, courts ask if the patent claims contain an "inventive concept" that "'transform[s] the nature of the claim[s]' into a patent-eligible application." *Id.* at 217–18 (quoting *Mayo*, 566 U.S. at 72, 78). Under the second step, courts "consider the elements of each claim both

individually and 'as an ordered combination.'" *Id.* at 217 (quoting *Mayo*, 566 U.S. at 79).

NeoGenomics contends that all asserted claims of the '454 and '596 patents are invalid for claiming ineligible subject matter. Doc. 490 at 31. In keeping with the parties' briefing, the court's analysis will focus on the asserted independent claims: claim 14 of the '454 patent and claim 1 of the '596 patent. Both of these claims contain the same basic elements: (1) sequence a tumor sample and identify SNV mutations; (2) amplify target loci corresponding to the SNV mutations from cell-free DNA isolated from a plasma sample; (3) sequence the amplicons and detect present SNV mutations. *See* Doc. 1-1 at 222; Doc. 350-10 at 220.

A. Step One: Directed to a Patent-Ineligible Concept

The evidence is undisputed that these claims are directed to detecting the presence of SNV mutations in cell-free DNA. This is a patent-ineligible natural phenomenon.

The claims here mirror the patent claims in *Ariosa Diagnostics, Inc. v. Sequenom, Inc.* (*Ariosa*), which the Federal Circuit found to be directed to a patent-ineligible natural phenomenon. 788 F.3d 1371, 1376 (Fed. Cir. 2015). Those claims comprised amplification of a nucleic acid from a maternal sample followed by detection of an acid of fetal origin from the amplified acid. *Id.* at 1373–74. The court noted that the claimed method "begins and ends with a natural phenomenon"—the DNA initially taken and the DNA ultimately detected—and held that it was therefore "directed to matter that is naturally occurring." *Id.* at 1376; *see also Myriad*, 569 U.S. at 590 ("The location and order of the nucleotides existed in nature before Myriad found them.").

Similarly, in *CareDx, Inc. v. Natera, Inc.* (*CareDx*), the Federal Circuit found claims directed to a natural phenomenon where the claims comprised:

> 1. obtaining or providing a sample from the recipient that contains cfDNA;
> 2. genotyping the transplant donor and/or recipient to develop polymorphism or SNP profiles;
> 3. sequencing the cfDNA from the sample using multiplex or high-throughput sequencing; or performing digital PCR; and
> 4. determining or quantifying the amount of donor cfDNA.

40 F.4th 1371, 1375, 1378 (Fed. Cir. 2022) (cleaned up).

Here, as in *Ariosa* and *CareDx*, the claims begin with a natural phenomenon, SNV mutations in a tumor sample, and end with a natural phenomenon, SNV mutations in cell-free DNA of a plasma sample. *See* Doc. 1-1 at 222; Doc. 350-10 at 220. The claims are therefore directed to a patent-ineligible concept.

Natera relies on *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.* (*CellzDirect*), 827 F.3d 1042 (Fed. Cir. 2016), and *Illumina, Inc. v. Ariosa Diagnostics, Inc.* (*Illumina*), 967 F.3d 1319 (Fed. Cir. 2020), for its contention that the claims are directed to a method of preparing plasma samples rather than detection of a natural phenomenon. Doc. 512 at 22–26. But those cases are distinguishable.

In *CellzDirect*, the Federal Circuit held that the claims were not directed to a natural law but to "a new and useful laboratory technique for preserving hepatocytes." 827 F.3d at 1048. The court distinguished *Ariosa* and other cases, noting that "[a]lthough the claims in each of these cases employed method steps, the end result of the process, the essence of the whole, was a patent-ineligible concept," rather than a prepared sample.

Id. Here, the end result of the claims is not a prepared plasma sample, as in *CellzDirect*, but detection of SNV mutations in the sample. Thus, *CellzDirect* is distinguishable.

In *Illumina*, the Federal Circuit found that patent claims for "methods for preparing a fraction of cell-free DNA that is enriched in fetal DNA" were not directed to a natural phenomenon. 967 F.3d at 1326. The natural phenomenon in *Illumina* was the fact "that cell-free fetal DNA tends to be shorter than cell-free maternal DNA in a mother's bloodstream," and the patent claims were not "directed to that natural phenomenon but rather to a patent-eligible method that utilize[d] it." *Id.* The court distinguished *Ariosa* because the claims in *Ariosa* "covered a method directed to starting with a sample that contains cell-free fetal DNA and seeing that . . . the cell-free fetal DNA exists." *Id.* at 1327. Here, the natural phenomenon is the presence of SNV mutations, and the claimed methods are directed to starting with a sample that contains SNV mutations and detecting those SNV mutations, as in *Ariosa*.

Natera contends that the claims here are analogous to those in *Illumina* rather than *Ariosa* because they "recite physical process steps that change the composition" of the sample and "use human-engineered parameters to manipulate natural phenomena." Doc. 512 at 24 (cleaned up) (quoting *Illumina*, 967 F.3d at 1326). At oral argument, Natera focused on the amplification step of the claims as creating "synthetic," "human-made," and "artificial" products. Doc. 555 at 62–65. But the patent-eligible claims in *Illumina* did not use amplification, *see* 967 F.3d at 1323, and the patent-ineligible claims in *Ariosa* and *CareDx* did. *See* 788 F.3d at 1373–74; 40 F.4th at 1374. And in finding the claims directed to a natural phenomenon, the *Ariosa* court pointed out that they did not "create[]

or alter[] any of the genetic information encoded in the" DNA. 788 F.3d at 1376. The claims here are analogous to those in *Ariosa*, not those in *Illumina*.

Natera also emphasizes the claims' preambles, Doc. 512 at 24–25, which describe the claims as a "method for preparing a plasma sample," Doc. 1-1 at 222, and "a method for preparing biological samples." Doc. 350-10 at 220. "In general, a preamble limits the invention if it recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim." *Shoes by Firebug LLC v. Stride Rite Child.'s Grp., LLC*, 962 F.3d 1362, 1367 (Fed. Cir. 2020) (cleaned up) (quoting *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002)). Here, the preambles do not contain an additional step or any meaning that is not covered by the claims themselves. Further, the language in the preambles does not change "the end result of the process," *see CellzDirect*, 827 F.3d at 1048, which is detection of SNV mutations, not preparation of a sample. And courts must not "interpret[] § 101 in ways that make patent eligibility depend simply on the draftsman's art." *Alice*, 573 U.S. at 226 (cleaned up). However artfully Natera drafted the preamble, the claims here are directed to detection of a natural phenomenon.

Natera points out that it used the "method" language in the preamble in the '596 patent prosecution to overcome the patent examiner's concerns about ineligible subject matter. Doc. 512 at 24–25. Assuming without deciding that Natera's addition of this language convinced the patent examiner that the subject matter was eligible, that is not determinative. "[N]umerous district courts across the country have found claims ineligible even where a patent examiner had previously considered § 101 and found the

claims eligible." *DriverDo, LLC v. Soc. Auto Transp., Inc.*, --- F. Supp. 3d ----, No. 3:23-CV-265, 2024 WL 1376218, at *11 (E.D. Va. Mar. 29, 2024) (collecting cases).

B. Step Two: Containing an Inventive Concept

As noted *supra*, if the claims at issue are directed to a patent-ineligible concept, the patent is still valid if it contains an "inventive concept" that "'transform[s] the nature of the claim' into a patent-eligible application." *Alice*, 573 U.S. at 217 (quoting *Mayo*, 566 U.S. at 72, 78). Courts "consider the elements of each claim both individually and 'as an ordered combination.'" *Id.* (quoting *Mayo*, 566 U.S. at 79).

The first element of the claims, sequencing a tumor sample and identifying SNV mutations, is not inventive. As Natera concedes, Doc. 555 at 67, this was known in the prior art. *See* Doc. 416 at ¶ 556.

The second element of the claims, targeted multiplex amplification of target loci in the same reaction volume, is also not inventive. Indeed, the '454 patent expressly incorporates prior art that describes such amplification as "traditional." *See* Doc. 1-1 at 185 (describing various amplification PCR methods and incorporating U.S. Publication No. 2012/0270212 by reference in entirety); Doc. 420-2 at 55 (U.S. Publication No. 2012/0270212, noting that "traditional multiplex PCRs evaluate up to fifty loci simultaneously" and that "[a]ssays may be combined in a single reaction" rather than "split into multiple parallel multiplex reactions"). Natera does not dispute that this prior art is incorporated into the '454 patent.

In *CellzDirect*, the Federal Circuit held that claims were patent-eligible at step two because they "recite[d] an improved process" with "significant" benefits over the prior art

methods. 827 F.3d at 1050. Here, this element does not improve over the prior art method, which the specification expressly acknowledges and incorporates by reference.

Natera contends that the claims' amplification element "overcame problems that hampered earlier efforts" by "using targeted multiplex amplification in the same reaction volume" rather than dividing the DNA "into multiple reaction vessels" and that this method was "revolutionary" and "not generally done outside of Natera." Doc. 512 at 27; *see* Doc. 1-1 at 222 (patent claim describing amplification of loci "together in the same reaction volume"); Doc. 350-10 at 220 (same). For support, Natera points to deposition testimony by Dr. Zimmerman and Dr. Rabinowitz, two of the listed inventors of the '454 and '596 patents as well as the previously mentioned incorporated prior art. *See* Doc. 1-1 at 2; Doc. 350-10 at 2; Doc. 420-2 at 2.

Dr. Rabinowitz testified that Natera was "kind of . . . the first company to perform massively multiplex PCR," but went on to say "other companies . . . were able to do multiplex PCR around the same time frame as" Natera. Doc. 422-9 at 34. Nothing in this testimony indicates that use of the "same reaction volume" was new.

Dr. Zimmerman testified, "I think outside of Natera, people were not able to do massively multiplex PCR," which is PCR of multiple assays "in a single PCR reaction," and went on to say that some companies "have done it unsuccessfully" while others "have tried it and have violated Natera's IP doing it." Doc. 422-7 at 16. To the extent this can be understood to support Natera's contention that use of the "same reaction volume" was inventive, this deposition testimony is extrinsic to the patent, unlike the incorporated prior art labeling this type of amplification as "traditional." Natera cannot

rely on extrinsic evidence to contradict the patent's public record. *CareDx, Inc. v. Natera, Inc.*, 563 F. Supp. 3d 329, 346–47 (D. Del. 2021) *aff'd*, 40 F.4th 1371 (Fed. Cir. 2022); *CareDx*, 40 F.4th at 1377, 1381 (affirming the lower court which "recognized that CareDx's expert testimony and other extrinsic evidence was contrary to, and therefore could not overcome, the admissions in the specification").

The third element of the claims, sequencing amplicons and detecting SNV mutations at a certain depth or sensitivity, is performed with off-the-shelf commercial products from Illumina, *see, e.g.*, Doc. 1-1 at 184; Doc. 350-10 at 182, as Natera pointed out and relied on at claim construction. *See* Doc. 262 at 18; Doc. 372 at 18. Use of off-the-shelf products is not inventive. *See CareDx*, 40 F.4th at 1380 (holding a claim was not inventive where "each step in the purported invention require[d] only conventional techniques and commercially available technology").

Natera makes a perfunctory argument that the concluding language in the last element of the claims, detection of "an SNV mutation that is present in less than or equal to 0.015% of the cell-free DNA," Doc. 1-1 at 222; Doc. 350-10 at 220, is inventive. Doc. 512 at 28. But this limitation merely describes the success of the method; it does not describe an inventive concept that the patent practices. Further, one of the claims at issue in *CareDx* contained a similar detection success threshold, 40 F.4th at 1374 ("wherein the . . . assay detects the [target] cfDNA . . . when the [target] cfDNA make up at least 0.03% of the total circulating cfDNA in the biological sample"), and the Federal Circuit nonetheless found the claim non-inventive. *Id.* at 1380. The third step of the claims is not inventive.

Lastly, as to the combination of steps in the claims as a whole, it was not inventive to identify SNV mutations from a tumor sample, perform amplification from a plasma sample, and sequence to detect those SNV mutations; Natera's expert concedes as much in discussing the separate issue of inventorship. *See* Doc. 416 at ¶¶ 603–620. As in *CareDx*, this ordering of steps was simply a "logical combination" of "standard, well-known techniques." 40 F.4th at 1380.

At oral argument, Natera pointed to the '454 patent specification's discussion of different parameters that can be used to achieve the claim steps to support its position that the claims as a whole are inventive. Doc. 555 at 68–70. But it is the claim language that matters for this analysis, not the specification. *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1149 (Fed. Cir. 2016) (noting that "[t]he § 101 inquiry must focus on the language of the . . . [c]laims themselves"). The Supreme Court has said the same: courts "examine the elements of the claim to determine whether it contains an inventive concept." *Alice*, 573 U.S. at 221 (cleaned up); *accord RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017) ("To save a patent at step two, an inventive concept must be evident in the claims."). Here, any purportedly inventive concepts in the patents' specifications cannot support the inventiveness of the claims themselves.

Natera nonetheless contends that the court may consider the parameters in the patent specification for inventiveness, pointing to the Federal Circuit's reference to the patent specification in *CareDx*. Doc. 555 at 70. But the *CareDx* court only referred to the specification for its admissions that the techniques recited in the claims were not inventive. 40 F.4th at 1378–80. Indeed, the court said that "CareDx does not actually

claim any improvements in laboratory techniques—rather, . . . the actual claims of the patent merely recite the conventional use of existing techniques to detect naturally occurring cfDNA." *Id.* at 1379 (emphasis added). And elsewhere, the Federal Circuit has said, in the § 101 context:

> [T]he specification cannot be used to import details from the specification if those details are not claimed. Even a specification full of technical details about a physical invention may nonetheless conclude with claims that claim nothing more than the broad law or abstract idea underlying the claims, thus preempting all use of that law or idea.

ChargePoint, Inc. v. SemaConnect, Inc., 920 F.3d 759, 769 (Fed. Cir. 2019).

Finally, Natera contends that NeoGenomics has waived the affirmative defense that the patents claim ineligible subject matter by not including this defense in a notice electing final invalidity arguments. Doc. 555 at 28–29. But those elections, filed after summary judgment briefing had begun and pursuant to a court scheduling order, were directed to identifying arguments NeoGenomics would make at trial.

As is common in patent cases, and consistent with a schedule proposed by the parties in a joint motion, Doc. 324, the Court required the parties to systematically narrow their claims and arguments so as to make the case manageable during discovery, to reduce work on claims that would ultimately not be pursued, and to make efficient use of trial time. As is relevant here, the Court ordered Natera to make a final election of seven claims by July 28, 2025, and NeoGenomics to make a final election of three invalidity arguments per claim by August 4, 2025. Doc. 330 at 6, as modified by Doc. 546. In its notice complying with this order, NeoGenomics listed four arguments per

claim and said that it "elects for trial the first three of the invalidity theories identified below for each set of claims, subject to the Court's rulings on the parties' motions for summary judgment." Doc. 553 at 1–2. The ineligible subject matter issue was fourth in each list. *Id.*

Nothing in the parties' jointly proposed schedule, Doc. 324, or the scheduling orders, Docs. 213, 256, 330, addressed whether these elections would limit arguments at summary judgment. But the timing of these required elections is inconsistent with such a limitation; the deadlines for these elections came after the summary judgment motions were to be fully briefed, and they were followed by a short deadline for the exchange of witness lists and other pretrial information. Doc. 330 at 6. The consent motion filed by Natera on July 25, 2025, asking for a one-business day extension of the claim and defense election deadlines makes this clear. Doc. 544. There, Natera repeatedly described the elections to be for assertion at trial, including in the motion's title. *Id.* at 1–2. And when the Court granted the motion, it mirrored that language. Doc. 546.

NeoGenomics' notice electing final invalidity arguments, Doc. 553, was for trial purposes. It was not a waiver of the fully-briefed ineligible subject matter defense.

V. Conclusion

Claim 14 of the '454 patent and claim 1 of the '596 patent do not cover patent-eligible subject matter. Their asserted dependent claims, claims 22, 24, 26, and 28 of the '454 patent and claim 12 of the '596 patent, do not add inventive concepts to what is claimed in the independent claims, *see* Doc. 1-1 at 222–23; Doc. 350-10 at 220, and Natera does not contend that they do, instead relying solely on its argument that the

independent claims are inventive. Doc. 512 at 29. All of the asserted claims are invalid under § 101 for claiming ineligible subject matter.

Because both patents are invalid, the Court need not address the remaining summary judgment arguments or the motions to exclude expert testimony, which the parties acknowledged at oral argument were directed towards trial testimony. *See* Doc. 555 at 5–6. The plaintiff's claims will be dismissed with prejudice, and the defendant is entitled to a declaratory judgment of invalidity of both patents

It is **ORDERED** that:

1. The defendant's motion for summary judgment, Doc. 489, is **GRANTED** because the patents are invalid for claiming ineligible subject matter.
2. The plaintiff's motion for summary judgment, Doc. 494, is **DENIED**.
3. The plaintiff's motion to exclude testimony and opinions of Dr. Niall Lennon, Doc. 496, is **DENIED** as moot.
4. The plaintiff's motion to exclude testimony and opinions of Mr. Stephen Dell, Doc. 498, is **DENIED** as moot.
5. The defendant's motion to exclude opinions and testimony from Dr. Michael Metzker, Doc. 501, is **DENIED** as moot.
6. Judgment will be entered as time permits and after consultation with the parties as to form.

This the 28th day of August, 2025.

UNITED STATES DISTRICT JUDGE